

EIM Help – Aquatic Vertebrate and Shellfish Tissue Data

Version 3.0
June 2015

Overview

One reason aquatic vertebrates and shellfish are collected by scientists is to gather information concerning toxic chemicals in our marine and freshwater environments. Analyzing vertebrate and shellfish tissue helps determine the presence and levels of toxic contaminants. After vertebrates or shellfish are collected and their measurements documented, the tissue is prepared and sent to the laboratory for analysis.

This document explains **how to enter aquatic vertebrate and shellfish tissue laboratory results, their associated measurement data, and the sampling locations** into EIM. Examples below refer to fish, but the same information applies to crustacean or mollusk tissue. For related data entry help, see: [Aquatic Vertebrate and Shellfish Counts](#).

How to Enter Sampling Locations

In addition to EIM's standard required fields described in the [Location Help Document](#), follow this guidance for entering your Locations into your [EIM Location data entry template](#).

Before entering new sampling Locations into EIM, search for existing EIM Locations in your sampling area by using [EIM Map Search](#). If EIM Locations already exist and they work for your Study, link to those instead of adding new ones. To link to an existing EIM Location, enter the EIM **Location ID** and your own Study-Specific Location ID into your Results template. When the data is loaded into EIM, it will create a link between that Location and your data.

Do not enter Locations into EIM for each place you gathered an organism. Instead, enter the *centroid* of the waterbody in which you sampled. If you sampled from a small waterbody, create an EIM Location using coordinates representing its center. If you sampled from a larger waterbody, create an EIM Location for the center of each distinct area (e.g. north end of lake).

For waterbody centroids, fill out the following fields this way:

- **Location Description** (D): Enter "*Location represents center of lake/sampling area*" or "*Location represents center of north end of lake/sampling area,*" etc.
- **Horizontal Coordinates Represent** (AC): Enter "**25**" (Centroid of Monitoring Area)

How to Enter Organism Measurement and Tissue Sample Data

About Composite Samples

A composite sample contains tissue from more than one organism. For each composite sample analyzed by your lab, we need to know:

- (1) The number of organisms in the composite
- (2) The range of time over which the composite was collected

In your Result template, **fill out a separate row for each composite sample analyzed by your lab**. See the *Number of Organisms in Composite Sample* column below for instructions.

About Measurements

Measurements are the lengths, weights, and sex of the organisms you collected for your tissue sample. Measurements can be for individuals or composites. If your tissue sample was a single organism, enter individual measurements. If your tissue sample was a composite, enter the mean length and weight. If required by your project, enter the minimum and maximum length and weight.

Filling Out Your Result Template

In addition to EIM's standard required fields described in the [Result Help Document](#), follow this guidance for entering your data into the [EIM Result data entry template](#):

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Field Collection Type	D	Measurement	Measurement	Measurement	Sample	Sample
Field Collection Start Date	F	DD/MM/YYYY				
Field Collection Start Time	G	Required for composite samples collected over time HH:MM:SS (24 hour time)				
Field Collection End Date	H	Required for composite samples collected over time DD/MM/YYYY				
Field Collection End Time	I	Required for composite samples collected over time HH:MM:SS (24 hour time)				
Field Collection Comment	J	For field replicates , enter same comment for first/original sample and replicate sample(s): "Sample ID XX is a field replicate of XX" (e.g. "Sample ID 04123456 is a field replicate of 04123457")				
Sample ID	R	Enter Sample ID of associated lab tissue sample (e.g. 04123457)				Enter Sample ID supplied by lab (e.g. 04123457)
Sample Replicate Flag	T	N if sample is not a field replicate N for first/original sample in a field replicate series Y for second and any additional samples in a field replicate series				
Sample Composite Flag	V	Y	Y for composite mean, min, or max N for individual	N	Y for composite mean N for individual	Y for composite sample N for individual organism
Sample Matrix	X	Tissue				

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Sample Source	Y	<i>Animal Tissue</i>				
Sample Collection Method	AA	See Table 2 - EIM Sample Collection Methods for Fish and Shellfish or EIM Method reference table for valid values				
Sample Taxon Name	AD	Enter scientific or common name. See EIM Taxon reference table for valid values. (EIM stores both scientific and common name – and downloads both too) Contact us if you cannot find a specific taxonomic entry. We will add it for you.				
Sample Tissue Type	AF	<i>Whole organism (animal)</i>				See EIM Tissue Type reference table for valid values
Result Parameter Name	AH	Enter one: <i>Fish, Number in Composite Sample</i> <i>Amphibian, Number in Composite Sample</i> <i>Mollusk, Number in Composite Sample</i> <i>Crustacean, Number in Composite Sample</i>	Enter value from Table 3 (e.g. <i>Fish Total Length, Mean of Individuals in Composite Sample</i>) Composites: Enter means. Enter min and max if required. Individuals: Enter individual length and weight.	Enter: <i>Fish Sex, Individual Fish</i>	Enter one: <i>Fish Age, Individual Fish</i> <i>Fish Age, Mean of Individuals in Composite Sample</i>	Enter analyte name supplied by lab. See EIM Parameter reference table for valid values. Contact us if you cannot find a specific parameter. We will add it for you.
Lab Analysis Date	AJ	Leave blank			MM/DD/YYYY If not provided by lab, enter date you received lab results	MM/DD/YYYY
Result Value	AM	Enter the number of organisms in your composite sample	Enter length or weight value	Enter "1"	Enter value in years (e.g. "2")	Enter value supplied by lab
Result Value Units	AN	<i>Count</i>	Enter one: for length: <i>mm</i> for weight: <i>g</i>	Enter one: <i>Male</i> <i>Female</i>	<i>Years</i>	Enter value supplied by lab. See EIM Units reference table for valid values.
Result Basis	AV	Leave blank				<i>Wet</i> <i>Dry (rare)</i>
Result Method	AY	<i>COUNTM</i>	Enter one: <i>LENGTH</i> <i>WEIGHT</i>	<i>FISHSEX</i>	<i>FISHAGE</i>	Enter analytical method supplied by lab. See EIM Method reference table for valid values.
Result Lab Name	BC	Leave blank	Leave blank	Leave blank	See EIM Lab reference table for valid values.	See EIM Lab reference table for valid values.

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Result Taxon Life Stage	BH	Leave blank	Enter one: <i>Adult</i> <i>Juvenile</i>	Enter one: <i>Adult</i> <i>Juvenile</i>	Enter one: <i>Adult</i> <i>Juvenile</i>	Enter one: <i>Adult</i> <i>Juvenile</i>
You are done - check the Result Help Document to make sure you filled in any other required fields						

Table 1 - Life History Forms for Fish: If your fish sample was one of the following species, indicate its life history form - anadromous (sea-run), resident, landlocked, or unknown per below. Life history forms of cutthroat trout, bull trout, Dolly Varden, and juvenile steelhead are difficult to determine so “unknown” can be acceptable.

Scientific Name	Common Name	Field Collection Comment (J) Enter one comment per fish tissue sample as appropriate
Oncorhynchus clarkii	cutthroat trout	<i>Life history form: anadromous</i> <i>Life history form: resident</i> <i>Life history form: unknown</i>
Oncorhynchus clarkii clarkii	coastal cutthroat trout	<i>Life history form: anadromous</i> <i>Life history form: resident</i> <i>Life history form: unknown</i>
Oncorhynchus kisutch	coho salmon	<i>Life history form: anadromous</i> <i>Life history form: landlocked</i>
Oncorhynchus mykiss	steelhead	<i>Life history form: anadromous</i>
Oncorhynchus mykiss	rainbow trout	<i>Life history form: resident</i>
Oncorhynchus nerka	Sockeye salmon	<i>Life history form: anadromous</i>
Oncorhynchus nerka	Kokanee	<i>Life history form: landlocked</i>
Oncorhynchus tshawytscha	Chinook salmon	<i>Life history form: anadromous</i> <i>Life history form: landlocked</i>
Salmo salar	Atlantic salmon	<i>Life history form: anadromous</i> <i>Life history form: landlocked</i>
Salvelinus malma	Dolly Varden	<i>Life history form: anadromous</i> <i>Life history form: resident</i> <i>Life history form: unknown</i>
Salvelinus confluentus	Bull trout	<i>Life history form: anadromous</i> <i>Life history form: resident</i> <i>Life history form: unknown</i>

Table 2 – EIM Sample Collection Methods for Fish and Shellfish. See the [EIM Method reference table](#) for more valid values. [Contact us](#) if you cannot find the method you used. We will add it for you.

Sample Collection Method (AA)	Description
DIVER	Collection/measurement by diver
ELECTROFISH-BACKPACK	Fish collection, electro-shock via backpack-mounted unit
ELECTROFISH-BOAT	Fish collection, electro-shock via boat-mounted unit
FISH-ANGLING	Fish collection, with rod, hook, and line
FISH-LONGLINE	Fish collection, with multiple hooks on a long line typically anchored to the bottom
FISH-MISC	Fish collection, unspecified
FISH-NET	Fish collection, netting, type unspecified
FISH-NET-BEACHSEINE	Fish collection, netting, beach seine
FISH-NET-GILL	Fish collection, netting, gill net
FISH-POISON	Fish collection, poison
FISH-TRAP	Fish, crab, lobster, etc. collection, trap or pot
OTTERTRAWL	Fish or macroinvertebrate collection by netting, otter trawl

Table 3 - Result Parameter Names for Fish, Amphibian, and Shellfish Length and Weight

Result Parameter Name (AH)
Fish Total Length, Individual Fish
Fish Total Length, Min Individual in Composite Sample
Fish Total Length, Max Individual in Composite Sample
Fish Total Length, Mean of Individuals in Composite Sample
Fish Fork Length, Individual Fish
Fish Fork Length, Min Individual in Composite Sample
Fish Fork Length, Max Individual in Composite Sample
Fish Fork Length, Mean of Individuals in Composite Sample
Fish Weight, Whole Individual Fish
Fish Weight, Min Individual in Composite Sample
Fish Weight, Max Individual in Composite Sample
Fish Weight, Mean of Individuals in Composite Sample
Amphibian Length (snout to vent length for adult frogs/toads; total length for others), Max Individual in Composite Sample
Amphibian Length (snout to vent length for adult frogs/toads; total length for others), Min Individual in Composite Sample
Mollusk Length (individual)
Mollusk Length, Min Individual in Composite Sample
Mollusk Length, Max Individual in Composite Sample
Mollusk Length, Mean of Individuals in Composite Sample
Mollusk Weight (individual)
Mollusk Weight, Min Individual in Composite Sample
Mollusk Weight, Max Individual in Composite Sample
Mollusk Weight, Mean of Individuals in Composite Sample
Crustacean Carapace Length (individual)
Crustacean Carapace Length, Min Individual in Composite
Crustacean Carapace Length, Max Individual in Composite
Crustacean Carapace Length, Mean of Individuals in Composite
Crustacean Carapace Width, Mean of Individuals in Composite
Crustacean Weight (individual)
Crustacean Weight, Min Individual in Composite Sample
Crustacean Weight, Max Individual in Composite Sample
Crustacean Weight, Mean of Individuals in Composite Sample

Revision History

Revision Date	Revision No.	Summary of Changes	Reviser(s)
1999	n/a	Original Document	CL
6/04	n/a	Updated Fish Parameters. Updated example spreadsheet for loading fish field data. Updated example spreadsheet for entering congeners, dioxins/furans (non-LIMS).	CL
5/06	n/a	Updated fish tissue Methods and UOMs. Updated fish specific Method Codes used for field data. Updated Tissue Types descriptions.	CL
4/08	n/a	Added link to the updated EAP QA form and procedures.	CL
9/1/13	2.0	Updated with new field names and permitted values per data model changes. Changed from the old "cheat sheet for fish" Excel document to the EIM Focused Help Word format. Added Locations, Composites, and Measurements sections. Added Result Reporting and Detection Limit requirements. Removed requirement for Result Sample Fraction for metals in tissue. Changed entering fish age as Samples to Measurements. Added requirement for the new Result Basis field. Added related help document links.	CL
10/31/14	2.1	This version was reviewed by users but not released. Changed title and content from fish/shellfish tissue only to aquatic vertebrates and shellfish. Changed entering age as Measurements to Samples because age is determined in lab, not field. Added a Sample Collection Method table. Updated Table #1 Fish Measurements and renamed to Fish EIM Parameter Name, Methods, and Units.	CL
6/24/15	3.0	Added instructions in the Field Collection Comment field in the Required Fields section for entering "Life-stage" information into the Field Collection Comment field for the listed species. Added requirement for Field Collection End Date if individuals used in a composite sample were collected over a range of different dates. Minor edits for clarification. Reformatted into grid. Document now posted for all users instead of just Ecology's Environmental Assessment Program.	CL, CN